

Remarks

Amendments to the Claims

Claims 1, 5-19, 35-46, 80-93, and 103-131 were pending in this application, and subject to a Restriction Requirement.

Claims 124-131 have been canceled.

New claims 132-137 have been added. Support for the new claims may be found in the original claims (such as, but not limited to, claims 9 and 121) and throughout the specification, such as, but not limited to, page 13, lines 1-7 and page 57 lines 1-3.

Claims 9 and 121 have been amended. Support for the amendments may be found in the original claims, and throughout the specification. No new matter is introduced by these amendments.

To the extent that any of the claims are viewed to be narrowed by the amendments made herein, Applicants reserve the right to pursue protection of the broader scope of the subject matter in this or a later-filed application. Applicants also expressly reserve the right to prosecute any deleted subject matter in one or more continuation or divisional applications.

After entry of this amendment, **Claims 1, 5-19, 35-46, 80-93, 118-123 and 132-137 are pending in the application.** Consideration of the pending claims is requested.

Restriction Requirement

The Examiner alleges that the pending claims describe six different inventions or groups of inventions (A-F) which are not so linked as to form a single general inventive concept under PCT Rule 13.1 because they lack the same or corresponding special technical feature. As such, Applicants are requested to elect a single invention to which the claims must be restricted.

Initially, Applicants note that the Examiner failed to cite a piece of prior art in this § 371 application establishing that the claimed compounds fail to satisfy the requirements of PCT Rule 13.1. Even if appropriate prior art had been referenced by the Examiner, claims relating to c-yes kinase inhibition by compounds having Formula I and I(b) encompass related groups of compounds and are properly viewed as a single invention. The compounds covered by Formula I and I(b) would all be searchable based on each of the generalized formulae. Applicants submit

that the compounds disclosed in Formula I and Formula I(b) form a proper Markush group and so claims directed to a method for the treatment of HIV comprising administering an inhibitor of c-yes kinase with a small molecule inhibitor involving either of these compounds should be viewed as a single invention.

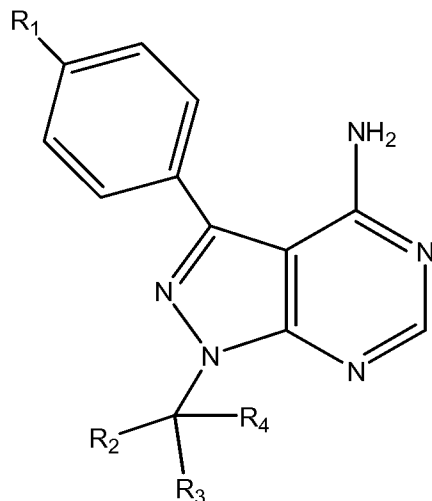
When “a group of inventions is claimed ... the requirement of unity of invention [PCT 13.1] ... shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features.” PCT Rule 13.2. In the case of claims involving chemical alternatives, PCT Rule 13.2 may be satisfied when the compounds are of a similar nature. For the compounds to be “of a similar nature”, the following requirements must be met (MPEP §1850(III)(B)):

“(A) All alternatives have a common property or activity; and

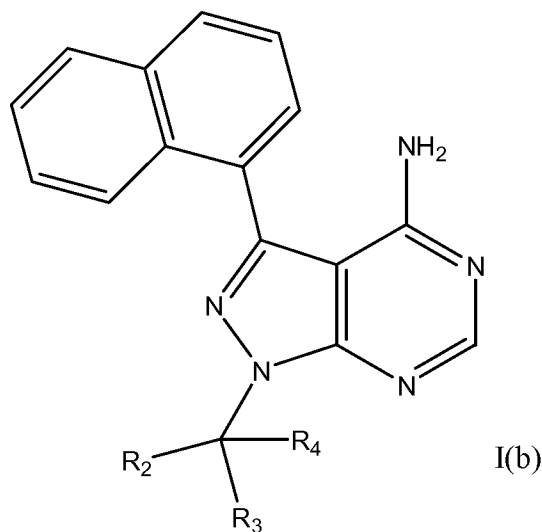
[(B)] (1) A common structure is present, i.e., a significant structural element is shared by all of the alternatives; or

(2) In cases where the common structure cannot be the unifying criteria, all alternatives belong to a recognized class of chemical compounds in the art to which the invention pertains.”

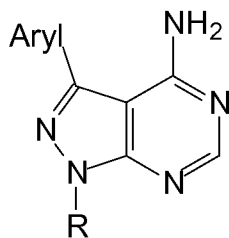
Formula I and I(b) satisfy this test and so have the required unity of invention.



Formula I



The specification discloses a common property or activity for compounds having Formula I or I(b): inhibition of c-yes kinase. Additionally, the Examiner apparently recognizes the common activity; in defining claim Group A and claim Group B, the Examiner has indicated that both Formula I and I(b) are candidates for inhibition of c-yes kinase. Contrary to the Examiner's contention, compounds having Formula I or I(b) also satisfy part (B)(1) of the test laid out in MPEP §1850(III)(B). Though the compounds are, as the Examiner remarked, 'structurally distinct,' these compounds have a significant structural element in common between all of the alternatives: they are all built around an aryl substituted pyrazolopyrimidine core. The following formula highlights this common element:



In this formula, R is a tertiary carbon with the range of substituents specified in the claims. Formula I has a pyrazolopyrimidinone core with a para-substituted phenyl substituent. Formula I(b) has a similar pyrazolopyrimidinone core with a naphthalene substituent. Note that the MPEP only requires "a common element" in finding that a group of compounds are of a similar nature;

thus minor differences in the aryl group, or variation in R₂-R₄ substituents for either Formula I or Formula I(b) are not enough to show that the compounds encompassed by those formulae are not a proper Markush group. See also Chapter 10 of the International Search and Preliminary Examination Guidelines referred to in MPEP §1893.03(d); particularly example 18 (§10.38). Applicants therefore respectfully request reformulation of the restriction requirement to classify the claims of Group A (1, 5, 9-10, 85, 89, 93, 118-122) and Group B (1, 5, 9, 11, 85, 89, 93, 118-121, 123) along with the new claims 132-137 as single invention covering claims 1, 5, 9-11, 85, 89, 93, 118-123 and 132-137, drawn to a method for the treatment of HIV comprising administering an inhibitor of c-yes kinase, wherein the inhibitor is a small molecular inhibitor, wherein the small molecules are defined by Formula I or I(b).

In addition, the Examiner has requested an election of species. Applicants therefore elect the species 4-Amino-5-(4-chlorophenyl)-7-(t-butyl)pyrazolo[3,4-d]pyrimidine ("PP2") with traverse. Claims 1, 5, 9-10, 85, 89, 93, 118-119, 121-122 and 132-137 read on the species elected. Claim 1 reads on this species because PP2 is an inhibitor of an *src* family kinase, namely c-yes kinase. Claims 5, 89, 93 and 118-119 read on this species because the small molecule PP2 inhibits c-yes kinase. Claims 9, 121, 132, 134 and 136 read on this species because PP2 has a formula corresponding to Formula I where R₁ is chlorine and R₂-R₄ are methyl. Claims 10, 122, 133, 135 and 137 read on this species because they specifically name PP2 as the inhibitor of their preceding claims. Claim 85 reads on this species because PP2 is an inhibitor of a human immunodeficiency virus induced cellular gene sequence, namely c-yes corresponding to SEQ ID NOS:8-9.

Conclusion

It is respectfully submitted that the claims covering compounds having Formula I and Formula I(b) should all be recombined and considered in the current case, and as such they are in a condition for substantive examination. This is the second restriction requirement for this application. In order to avoid undue burden on the Applicant, if an additional restriction requirement is asserted, the Examiner is formally requested to contact the undersigned prior to issuance of the next Office action, in order to arrange a telephonic interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution. This request

is being submitted under MPEP §713.01, which indicates that an interview may be arranged in advance by a written request.

Respectfully submitted,

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